

Science Department
Grade 12 University Chemistry, SCH 4U (1.0 credit)

Course Prerequisite: SCH 3U**Textbook:** Chemistry 12 (McGraw-Hill Ryerson) (replacement \$100)**Teacher:** Mr. Lanziner**Subject Head:** Mr. Lanziner**Course Description**

This course enables students to deepen their understanding of chemistry through the study of organic chemistry, the structure and properties of matter, energy changes and rates of reaction, equilibrium in chemical systems, and electrochemistry. Students will further develop their problem-solving and investigation skills as they investigate chemical processes, and will refine their ability to communicate scientific information. Emphasis will be placed on the importance of chemistry in everyday life and on evaluating the impact of chemical technology on the environment.

Course Units

In science students will demonstrate scientific investigation skills in the four areas of skills (initiating and planning, performing and recording, analysing and interpreting, and communicating) and, identify and describe careers related to the fields of science under study, and describe the contributions of scientists to those fields.

The following units of study will be covered:

- Organic Chemistry
- Structure and Properties of Matter
- Energy Changes and Rates of Reaction
- Chemical Systems and Equilibrium
- Electrochemistry

Evaluation Breakdown

The student will be provided with numerous and varied opportunities to demonstrate achievement in all four categories of knowledge and skills - *Knowledge/Understanding*, *Thinking/Investigation*, *Communication*, and *Application* as indicated below ($\pm 5\%$):

Knowledge/Understanding	30 %
Thinking/Investigation	15 %
Communication	15 %
Application	10 %
Final Exam	30 %

Knowledge/Understanding

- Understanding concepts, facts and terms, relationship among concepts.
- Primarily assessed from tests and/or quizzes

Thinking/Investigation/Communication

- Design/performance of lab experiments/activities, recording, analysis and interpretation of experimental data, problem solving
- Effective communication using correct scientific terminology, symbols and units, following instructions for communication or written material
- May be assessed during performance labs, lab reports, assignments, test, quizzes, presentations, projects and journals

Application

- Connecting science, technology and the environment
- May be assessed using assignments, tests, quizzes

Culminating Activities

- Usually towards the end of a unit a large assignment/lab will be given which summarizes many key ideas of the unit

Exams

- All categories of assessment may be reflected on the examinations

Learning Skills

In addition students will be assessed on their *learning skills* as listed below. They are NOT included in determining the final percentage grade.

Responsibility	Organization	Independent Work	Collaboration	Initiative	Self-Regulation
<ul style="list-style-type: none"> • Complete work with care • Submit assignments on time • Manage my behaviour • Prepare for test & quizzes 	<ul style="list-style-type: none"> • Come to class prepared • Notebooks tidy & ordered • Plan ahead & manage time to meet deadlines • Use an organizer to achieve goals 	<ul style="list-style-type: none"> • Use time effectively during class • Follow instructions with minimum supervision • Make use of notes to complete tasks • Seek assistance after serious effort 	<ul style="list-style-type: none"> • Complete my share of work • Contribute ideas • Cooperate & participate with others • Listen attentively without interrupting 	<ul style="list-style-type: none"> • Make up missed work • Get work before an absence • Complete work without prompting • Demonstrate interest • Participate in discussions • Seek assistance 	<ul style="list-style-type: none"> • Attend class on time • Set goals • Consistent effort to complete work • Correct homework • Persist and do not give up easily on class work

Assessment & Evaluation

You and your teacher will have many opportunities to review your understanding throughout the course before *summative evaluations* occur to determine your mark. At the start of a topic you may get a *diagnostic* questionnaire in order to determine your readiness to learn new material. Throughout a topic you will have many instances of *formative* feedback in order to help guide you. This feedback may be formal (written comments on your rough draft, practice quizzes, peer & self evaluations) or informal (verbal feedback & coaching). Finally at the end of a topic you may have a *summative evaluation* (quiz, test, assignment) that will be used to help form your mark.

Instructional Strategies

A variety of instructional strategies may be used in this course. They may include but are not limited to Socratic notes, laboratory investigations, demonstrations, question & answer, cooperative learning (i.e., Placemats, Jigsaws, Debate, Oral Presentations), simulations, role-playing, technological literacy (internet research, power point presentations), as well as small & large group discussion.

Extra Help

Extra help is available from a variety of resources. Some of these resources include fellow students, textbook & handouts, peer mentors and your teacher. Each teacher has his/her own time(s) at which extra help will be available. Your teacher will let you know these times early in the semester. It is essential that you prepare for extra help by reviewing course material regularly. Identify specific items that you do not understand or that need clarification. An entire lesson/unit will not be re-taught during extra help.

Assignment Due Dates

You are responsible for providing evidence of your learning within established timelines. You will receive consequences for cheating, plagiarizing, not completing work and submitting work late. These consequences can escalate and result in mark deduction for late assignments up to the full value of the assignment. The due date for each assignment will reflect the complexity of the assignment and allow an appropriate timeframe for its completion.

If you anticipate missing a deadline, then it is your responsibility to discuss the situation with your teacher **in advance** of the deadline. An alternative arrangement may be warranted. It is expected that most evaluations will be written within two school days upon return to class at a time established by the teacher

In all other cases, when a deadline has been missed, a mark of zero(0) will be assigned. You will start a plan with your teacher to make up this missed work. Your plan will include a Completion Contract and parental involvement.

Any late or missed assessment, test or quiz due to truancy will not be accepted for evaluation and a zero assigned.

Classroom Safety

Safety procedures must be followed at all times in the science classroom to ensure the well being of students and staff. Failure to follow teacher instructions (during laboratory work OR class time) will result in the removal of the student. **A mark of zero may be assigned.**

School Contact Information

Students may speak directly to the teacher in class (at an appropriate time) or at a time established by the teacher. Parents may contact the teacher by email at david.lanziner@yrdsb.ca or phone (905) 727-3131 x405 and leaving a message.

Course Fees

Students have the opportunity to purchase their own pair of safety goggles from the science department. The cost is \$8.00 (approx)

Additional Information:

- The Ontario Curriculum Grade 11 & 12 Science, 2008 available at <http://www.edu.gov.on.ca/eng/curriculum/secondary/science.html>
- Course Outline: <http://www.drgwilliams.ss.yrdsb.edu.on.ca/> select departments/select science

I hereby acknowledge that I have read, understood and will follow the policies stated on the Course Outline, and the Student Responsibility for Science Laboratory Safety Sheet.

Student Name (Please Print)

Parent Name (Please Print)

Student Signature

Parent Signature